



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

For the length of the half of the stretched arc we have

$$\begin{aligned}
 ds &= dw + \frac{1}{100} \sqrt{(H^2 + w^2)} dw, \\
 S &= W + \frac{1}{200} W \sqrt{(H^2 + W^2)} + \frac{H^2}{200} \log \frac{W + \sqrt{(H^2 + W^2)}}{H} \\
 &= W + \frac{1}{200} TW + \frac{1}{200} H^2 \log \frac{50}{H} \\
 &= 28.164.
 \end{aligned}$$

[W. M. Thornton.]

EXERCISES.

SELECTED FROM CASEY'S CONIC SECTIONS.

145

FIND the equation to the circle through the feet of the normals from (h, k) to the parabola $y^2 = 2px$.

146

FIND the condition that the chords AB, CD in an ellipse should meet the transverse axis in points equidistant from the centre, the points A, B, C, D being given by their eccentric anomalies $\alpha, \beta, \gamma, \delta$.

147

THE point P on an ellipse is the projection of Q on the circle on the transverse axis. P', Q' are the points diametrically opposite. Find the area of the parallelogram formed by the four points in terms of the eccentric anomaly of P .

148

FIND the area of the parallelogram formed by tangents at the same points.

149

FROM a point P whose distances from the foci of an ellipse are r, r' tangents are drawn to the curve. Find the angle between them.

150

SHOW that the equation to the pair of tangents from $x'y'$ to $b^2x^2 + a^2y^2 - a^2b^2$ may be written

$$a^2(x - x')^2 + b^2(y - y')^2 = (xy' - x'y)^2.$$